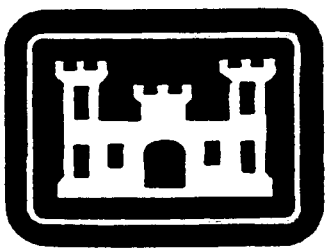
ACTION MEMORANDUM
FOR SITE SS-017, BUILDING 2774
PLATTSBURGH AIR FORCE BASE
PLATTSBURGH, NEW YORK

ACTION MEMORANDUM

FEBRUARY 1992

PREPARED FOR:
U.S. ARMY CORPS OF ENGINEERS
KANSAS CITY DISTRICT
CONTRACT NO. DACA41-91-C-0121



U.S. ARMY CORPS OF ENGINEERS
KANSAS CITY DISTRICT

MALCOLM PIRNIE, INC.

Four Corporate Plaza
Albany, New York 12203

2 Corporate Park Drive
White Plains, New York 10602

ACTION MEMORANDUM
SITE SS-017 BUILDING 2774
PLATTSBURGH AIR FORCE BASE
PLATTSBURGH, NEW YORK

CONTENTS

ACTION MEMORANDUM
SITE SS-017 BUILDING 2774
PLATTSBURGH AIR FORCE BASE
PLATTSBURGH, NEW YORK

CONTENTS (CONTINUED)

PAGE NO.

ACTION MEMORANDUM DECLARATION STATEMENT

Installation Restoration Program
Site SS-017, Building 2774, Former Hazardous Materials/Waste Storage Area
Plattsburgh Air Force Base, Plattsburgh NY

1.0 STATEMENT OF BASIS AND PURPOSE: This decision document presents the preferred removal action alternative for the Installation Restoration Program (IRP) Site SS-017, Building 2774, the former hazardous materials/waste storage area at Plattsburgh Air Force Base, New York. The removal action was chosen in accordance with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA), and the National Contingency Plan (NCP). This decision is based on the administrative record for Site SS-017.

2.0 ASSESSMENT OF THE AREA: Conditions presently exist at the Plattsburgh Air Force Base IRP Site SS-017 which, if not addressed by implementing the response action documented in this Action Memorandum, will lead to (1) actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants, and (2) migration of high levels of hazardous substances or pollutants or contaminants.

3.0 DESCRIPTION OF PREFERRED REMOVAL ALTERNATIVE: The preferred removal action alternative addresses the principal threat to Site SS-017 by removing the soil and debris contaminated with volatile and semivolatile organic compounds including dichlorobenzenes, methoxyphenols, toluene, ethylbenzene, and xylene. The recommended removal action for Site SS-017 includes the following components:

3.1 Excavation of on-site soil and debris containing greater than 200 parts per billion (ppb) dichlorobenzene to the extent practically feasible for scope of the removal action. Dichlorobenzene will be used as an "indicator" compound to delineate the limits of site contamination.

3.2 Off-site incineration of material containing site contaminants in concentrations exceeding the allowable land disposal limits.

3.3 Restoration of the site to its original condition.

4.0 STATUTORY DETERMINATIONS: The preferred removal alternative protects human health and the environment, complies with applicable or relevant and appropriate federal and state requirements, and is cost effective. The removal alternative satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume of hazardous substances as a principal element.

LARRY J. LETURMY
Colonel, USAF
Commander

20 MAR 92
Date

1.0 INTRODUCTION

Plattsburgh Air Force Base (AFB) has determined that a "time critical" removal action is necessary at Site SS-017. The site is located on the Plattsburgh AFB adjacent to Building 2774. This removal action is intended to prevent contamination of the groundwater with Volatile Organic Compounds (VOCs) and Semi-Volatile Compound (SVOCs) and to prevent migration of the contamination. Site SS-017 was previously used to store drums of waste and new product. Accidental spills from buckets of new or waste material and leaking of drums has occurred in this area. The release of contaminants was first discovered in 1985 during a routine Department of Environmental Conservation (DEC) inspection. Since that time all drums and debris have been removed from the site and additional field investigations have been conducted including a Site Investigation in 1987. During these previous investigations, elevated levels of VOCs and SVOC's have been detected. A predraft RI Work Plan has been formulated by Malcolm Pirnie and is being reviewed by the Plattsburgh AFB and the ACE at this time. This Action Memorandum presents a proposed removal action to address immediate environmental risks associated with previous spills at the site. Ongoing RI studies will address further actions necessary to remediate longer term environmental risks. The proposed removal action presented here involves excavation of approximately 150 cubic yards of contaminated soils and off-site incineration and disposal by an incineration facility. Alternative technologies are addressed in the appendices of this document.

This document is presented in the format provided in the Environmental Protection Agencies (EPA) Action Memorandum Guidance Document, dated December 1990.

2.0 PURPOSE

The United States Air Force (USAF) Strategic Air Command (SAC) is undertaking a "time-critical" Removal Action at IRP Site SS-017 at Plattsburgh Air Force Base (PAFB) in Plattsburgh, New York, pursuant to the Draft Interagency Agreement (IAG) dated July 10, 1991. This is being undertaken as a component of the Department of Defense (DOD) Installation Restoration Program (IRP) and as a component of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) of 1980, and amended by the 1986 Superfund Amendments and Reauthorization Action (SARA).

The purpose of this Action Memorandum is to document the proposed removal action described herein for the area adjacent to Building 2774 designated as Site SS-017 at the Plattsburgh Air Force Base.

3.0 SITE CONDITIONS AND BACKGROUND

3.1 Site Description

3.1.1 Removal Site Evaluation

At the present time the site consists of a grassy area with a concrete slab approximately 15 feet by 15 feet at the southeast corner of Building 2774. All drums and surface debris have been removed from the site and a snow fence with warning signs has been built around the area.

Previously, drums of waste and new product, including carbon remover solvent, PD-680 cleaning solvent (mineral spirits), engine oil, and hydraulic fluid were accumulated on the concrete slab. Waste drums were filled using funnels, and new product was obtained from drums fitted with spigots and stored on racks. As many as 15 to 20 drums may have been stored in this area at one time. [SI, 1989]

Accidental spills from buckets of new or waste material have occurred in this area. Spillage resulting from filling waste drums was also reported, and environmental contamination is possible from runoff of these spills. The New York State Department of Environmental Conservation (April, 1985) and Plattsburgh AFB (October, 1985 and November, 1986) sampled surface soils and detected chlorinated solvent residues, aromatic hydrocarbons, oil and grease, polyaromatic hydrocarbons (PAHs), and high concentrations of dichlorobenzene (DCB). The source of the latter is reportedly a stored 55-gallon drum of DCB, which was found empty when opened [SI, 1989]. In addition a Site Investigation (July, 1989) conducted on November, 1987 found contamination at depths up to four feet below the surface.

3.1.2 Physical Location

Plattsburgh Air Force Base is located in northeastern New York State, adjacent to Lake Champlain (Figure 1). It is approximately 26 miles from the Canadian border and 167 miles north of Albany, New York. The base is bordered on the north by the City of Plattsburgh and on the east by Lake Champlain. The base covers 4,795 acres: 3,365 acres are federally owned and controlled by the military, and 1,430 acres are registered as easement tracts.

Site SS-017 is located in approximately the center of the Base, South-East of Building 2774 and North-East of Building 2753 (Figure 2 & 3). These buildings serve the industrial operations for the SAC flightline just west of Arizona Avenue. The area surrounding the site is a heavily developed industrial area.

The nearest residences are base housing located about .8 miles northeast of the site. The nearest off-base residences are located about 1 mile due East of the site.

3.1.3 Site Characteristics

3.1.3.1 Physical Features

The topography in the vicinity of Building 2774 is relatively flat and gently sloping to the east. The elevation ranges from approximately 170 to 180 feet above mean sea level (msl).

On the north and south sides of Building 2774 are asphalt parking lots with grassy areas located to the east and west. Surface water reportedly drains to the culvert located southeast of Building 2774 which discharges to a drainage ditch on the eastern side of Arizona Avenue.

3.1.3.2 Hydrogeologic Characteristics

The soils encountered beneath the site were reported in the Site Investigation (July 1989) as poorly graded fine sands to approximately 24 feet below the ground surface. The depth to ground water at this site is reported in the Site Investigation as approximately five to six feet below the ground surface, with a horizontal gradient of approximately 0.013. Direction

of local shallow ground water flow is east-southeast. Regional groundwater flow is anticipated to be eastward to Lake Champlain, a regional discharge area.

3.1.4 Release or Threatened Release into the Environment of a Hazardous Substance, or Pollutant or Contaminant

As discussed above, drums of waste and new product, including carbon remover solvent, PD-680 cleaning solvent (mineral spirits), engine oil, and hydraulic fluid were accumulated on a concrete slab outside the southeastern corner of Building 2774. Waste drums were filled using funnels, and new product was obtained from drums fitted with spigots and stored on racks. As many as 15 to 20 drums were reportedly stored in this area at one time. Accidental spills from buckets of new or waste material occurred in this area. Spillage resulting from filling waste drums was also reported, and environmental contamination is possible from runoff of these spills. [SI, 1989]

3.1.4.1 Previous Sampling Results

3.1.4.1.1 Soil

Three individual surface or near surface soil sampling rounds were conducted near the Building 2774 hazardous waste accumulation pad prior to the SI field activities. The analytical data are presented in Table 1. The NYSDEC collected two surface soil samples and reported total dichlorobenzene concentrations as high as 9,800,000 ppb and aromatic hydrocarbon concentrations as high as 640,000 ppb (total xylenes). The PAFB subsequently performed a sampling program where soil samples from 12, 18 and 24 inches below ground surface were collected and analyzed for oil and grease as well as chlorobenzenes and dichlorobenzenes. Although the sample locations were not well documented, the data indicated elevated levels of contamination in all three depth intervals sampled. The oil and grease and total dichlorobenzene levels were as high as 59,800 ppb and 23,600,000 ppb, respectively. Approximately one year later a third sampling program was performed by the PAFB to further delineate the limits of contamination. Soil samples were collected at 12 and 36 inches below ground surface and analyzed for Volatile Organic Compounds (VOC's) by EPA Method 8020 with a detection limit of 200 ppb. The analytical results of the third sampling program indicated that the VOC levels in the near surface soils (12-inch depth

samples) were generally less than previous samples and only the shallow soils in the immediate vicinity of the accumulation pad were still highly elevated. The highest total dichlorobenzene concentration was 1,360,000 ppb and the highest non-chlorinated hydrocarbon concentration was 180,000 ppb (total xylenes). Both of these samples were collected from 36 inches below ground surface. The sample locations are shown on Figure 4; measured contaminant concentrations are shown on Figure 5.

A soil gas survey was performed within the site area during the SI field investigation (Oct, 1987). A map presenting the sample locations is shown in Figure 6 and the analytical results are presented in Table 2. These data indicate that the elevated VOC levels are still found in the immediate vicinity of the hazardous waste accumulation pad located southeast of Building 2774.

Four soil borings were drilled during November, 1987 to a depth of five to six feet below ground surface and sampled during the SI field investigation. The SI analytical data is presented in Table 3 and the sample locations are shown on Figure 4 . In general, the samples were collected from varying depths and analyzed for some or all of the following parameters: VOCs, Semi-Volatile Organic Compounds (SVOCs), Target Analyte List (TAL) inorganics, and Petroleum Hydrocarbons (PHCs).

The highest levels of organic contaminants were measured in soil boring B-17-001, with halogenated and aromatic hydrocarbon levels as high as 6,600 ppb and 72,000 ppb, respectively. These values were measured from soil samples collected from three to four feet below ground surface. Elevated levels of SVOCs (up to 41,000 ppb 1,2-dichlorobenzene) were also detected at these depths. The soil sample from five feet below ground surface had much lower measured VOC values (up to 390 ppb total xylenes). Analysis were not performed for SVOCs.

Elevated levels of PHCs and lead (18,000 and 98 ppm, respectively) and low levels of aromatic hydrocarbons at the 1-foot sample depth were measured in soil boring B-17-002. Soil samples collected from B-17-003 and B-17-004 also had elevated measured levels of PHCs and lead (up to 10,000 and 163 ppm, respectively) at the 1-foot sample depth. Low levels of VOCs and bis(2-ethylhexyl)phthalate were also measured in these soil samples.

3.1.4.1.2 Groundwater

Three monitoring wells were installed and sampled at the site during the SI field activities. The well locations are shown in Figure 4. MW-17-001, located upgradient of the site, is screened at or near the water table. MW-17-002 and MW-17-003 are screened at successive 10-foot intervals below the water table, forming a well couplet. The ground water samples from these wells were analyzed for VOCs, SVOCs, and TAL inorganics; the results are summarized in Table 4. No VOCs were detected in the background well, and metals were detected at background levels [SI, 1989]. The groundwater sample obtained from MW-17-002 had measured aromatic hydrocarbons at concentrations up to 20 ppb and PAHs below 10 ppb. The groundwater sample obtained from MW-17-003 had measured trace concentrations of trichloroethylene (estimated value of 4.1 ppb). The SI report also indicated that the metals values in the downgradient ground water samples were at background levels.

3.1.4.2 Current Status

The principle source of contamination (i.e., drums previously stored at the site) has been permanently removed from the site and this area will no longer be used as a drum storage area. The main concern at this time is the secondary source of contamination, the contaminated soil above the ground water. Previous sampling rounds have confirmed the presence of high levels of organic contaminants in the soil adjacent to the concrete pad. Based on the available information (i.e., SI Report) elevated levels of organic contaminants have not been detected in the ground water. The proposed interim removal action will be implemented to protect the groundwater from contamination.

3.1.5 NPL Status

Plattsburgh Air Force Base is listed on the National Priority List (NPL) as of November 1989 (final). At locations across the base, various areas of concern are being investigated to varying degrees, from the Preliminary Assessment stage to the Remedial Investigation (RI) stage. An SI has been conducted on the area adjacent to building 2774 and an RI is currently scheduled to begin this spring. The predraft RI Work Plan has been formulated by Malcolm Pirnie and is being reviewed by the PAFB and the ACE at this time. Although

this proposed removal action addresses immediate environmental risks associated with previous spills at the site, on going RI studies will address further actions necessary to remediate longer term environmental risks.

3.2 Other Actions to Date

3.2.1 Previous Actions

In 1988, the area was surrounded by snow fencing with warning signs to prevent access. As discussed above, the only other actions to date have been sampling events at the site; no remediation has occurred.

3.3 Federal, State, and Local Action to Date

The New York DEC first recognized that contamination was present at Site 2774 during a routine hazardous waste inspection performed on April 16, 1985 as previously described. There has been an exchange of correspondence between PAFB and the DEC since the discovery of the problem.

On December 31, 1991 PAFB sent a letter to the US Environmental Protection Agency (EPA) and New York State Department of Environmental Conservation (NYSDEC), informing them that a "time critical" removal action is necessary at this site to prevent contamination of the groundwater and subsequent migration of contamination.

4.0 THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

4.1 Threats to Public Health or Welfare or the Environment

4.1.1 Hazard Identification

As reported previously in this document, environmental sampling has shown elevated levels of certain volatile and semi-volatile organic contaminants, most notably dichlorobenzenes

(DCB), methylphenols (cresols), toluene, ethylbenzene and xylene. These chemical contaminants have been identified in subsurface soils from borings taken around the concrete storage pad at SS-017. Human contact with these contaminants is unlikely if the site is not disturbed. For the purposes of this Action Memorandum, chemical contamination is discussed in the context of the potential for degradation of ground water which may be used for public consumption. Based on the results of previous sampling events at the site, DCB appears to be the major organic contaminant.

4.1.2 Description of Contaminants

4.1.2.1 Dichlorobenzenes

4.1.2.1.1 Toxicity

Information on the health effects of DCB are limited, however, animal studies have shown that chronic oral exposure to DCB can cause a number of effects including slight liver cirrhosis, focal necrosis, and elevated liver and kidney weight. Central Nervous System depression, membrane irritation, as well as haemotoxicity, liver damage, sensitization and respiratory effects have been reported following subchronic oral exposure.

No information on the toxicity of 1,2-DCB resulting from direct acute or chronic skin contact is available.

1,4-DCB has been listed as a "C" carcinogen by the USEPA.

4.1.2.1.2 Fate and Transport

DCB in surface water undergoes rapid volatilization, with a half-life on the order of hours; hydrolysis, oxidation and, direct photolysis are not expected to be important fate processes in water. It is of particular significance that this chemical adsorbs onto sediments and hence persists in aquatic systems.

In soils, DCB adsorbs moderately to strongly, and undergoes slow biodegradation under aerobic conditions. Direct volatilization from the soil surface is an important mechanism of removal from the soil.

4.1.3 Contaminant Action Levels

Because there are no Federal or State standards for soil cleanup other criteria must be used to evaluate the impact of the contamination at the site. To evaluate Site SS-017 the Water-Soil Partition Model was used to predict organic contaminant concentrations in soil that could leach contaminants into the groundwater in excess of State standards. As stated in the proposed New York State Petroleum Contaminated Soil Guidance dated September 24, 1990, this model is an accepted method of determining the leachability of contaminants in soil with respect to its potential as groundwater contamination source.

It is important to note that this model is generally used to determine clean up limits for final remedial actions. The values obtain from this model are likely to be overly conservative for an interim removal action. However based on the available data the cleanup level does not actually affect the limits of remediation proposed for this action since measured contaminant concentrations vary from relatively high levels (i.e., $\geq$10 ppm for each VOC and SVOC) to non-detectable levels (i.e., $\leq$0.1 ppm for each VOC and SVOC) without any measured concentrations in between.

The maximum soil concentration can be determined for a given contaminant using the following equation:

$$C_s = f \times K_{oc} \times C_w$$

where: C_s = Allowable contaminant concentration in the soil (ppb)

f = Fraction of total organic matter in the soil (%)

K_{oc} = Partition coefficient between water and soil

C_w = Allowable groundwater standard (ppb)

The soil samples from SS-017 were not analyzed for total organic content. However, to run the model a value of 2.5% will be used for the f component of the equation. This is the average value used in the NYSDEC Soil/Water Partition Guidance.

The value, K_{oc} is the soil/water partition coefficient making the assumption that the organic fraction is the adsorbing material as opposed to the entire soil matrix. These values are available from the literature.

The allowable groundwater standards are taken from current NYSDEC and NYS Department of Health guidelines.

The maximum allowable soil concentrations for the major organic contaminants found at SS-017, as calculated by the Water-Soil Partition Model, are as follows:

4.1.3.1 1,2 - Dichlorobenzene

C_w = 4.7 ppb
f = 0.025
K_{oc} = 1700 l/mg
C_s = 200 ppb

1,2 - Dichlorobenzene was detected at a concentration of 41,000 ppb at location B-17-001 at a depth of four feet below grade. This value exceeds the 200 ppb allowable contaminant concentration in soil as calculated using the Water-Soil Partition Model. A previous sampling program conducted by the base detected 1,2-DCB, at concentrations that exceeded the guidance soil concentration, in 3 locations at SS-017. In addition, a second sampling program detected exceedance levels of total DCBs at 7 locations.

4.1.3.2 1,3 - Dichlorobenzene

C_w = 4.7 ppb
f = 0.025
K_{oc} = 1700 l/mg
C_s = 200 ppb

1,3 - Dichlorobenzene was detected at a concentration of 23,000 ppb at location B-17-001 at a depth of four feet below grade. This value exceeds the 200 ppb allowable concentration as calculated by the Water-Soil Partition Model. A previous sampling program conducted

by the base detected 1,3-DCB, at concentrations that exceeded the guidance soil concentration, in 1 location at SS-017. In addition, a second sampling program detected exceedance levels of total DCBs at 7 locations.

4.1.3.3 1,4 - Dichlorobenzene

C_w = 4.7 ppb
f = 0.025
K_{oc} = 1700 l/mg
C_s = 200 ppb

1,4 - Dichlorobenzene was detected at a concentration of 32,000 ppb at location B-17-001 at a depth of four feet below grade. This value exceeds the 200 ppb allowable concentration as calculated by the Water-Soil Partition Model. A previous sampling program conducted by the base detected 1,4-DCB, at concentrations that exceeded the guidance soil concentration, in 17 locations at SS-017. In addition, a second sampling program detected exceedance levels of total DCBs at 7 locations.

4.1.4 Conclusions

Previous field investigations at SS-017 indicate elevated levels of certain volatile and semi-volatile organic compounds. The Water-Soil Partition Model using contaminant specific soil/water partition coefficients indicates there is a very high potential for several dichlorobenzene isomers present at SS-017 to eventually leach into the groundwater at concentrations that would exceed the NYSDEC groundwater and DOH drinking water standards. Therefore removal action is warranted for this site.

Almost all of the samples collected at SS-017 to date have been analyzed for Dichlorobenzene with a relatively small number being analyzed for other SVOC's and VOC's. Therefore the cleanup level for SS-017 have been based on DCB. It is anticipated that remediating for DCB will effectively remove the other SVOC's and VOC's. Pre-removal field investigations will be used to confirm this assumption.

According to the Partition Model the allowable DCB concentration that can remain in the soil without endangering the groundwater is 200 ppb.

5.0 ENDANGERMENT DETERMINATION

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this Action Memorandum, may present an imminent and substantial endangerment to public health, or welfare, or the environment.

The intention of this proposed action is to remedy immediate dangers of release resulting from contamination of the groundwater and subsequent migration of contamination. As part of RI studies addressed above, long term health risk affects will be assessed to determine the need for further action.

6.0 PROPOSED ACTIONS AND ESTIMATED COSTS

6.1 Proposed Action

6.1.1 Proposed Action Description

6.1.1.1 Overview

The proposed action includes removal, demolition, testing, treatment (if necessary) and disposal of the concrete pad, excavation of the contaminated soil, offsite incineration and landfilling. Following removal, a filter fabric will be placed in the bottom of excavation and the site will be backfilled to original grades with clean fill. Site SS-017 will be further characterized during the Remedial Investigation.

6.1.1.1.1 Limits of Removal

As discussed above, DCB has been used as the indicator to delineate the limits of contamination based on existing data. According to the Partition Model remediating to 200 ppb DCB will adequately protect the groundwater. The data obtained from pre-SI field investigations and the SI indicates that measured concentrations of DCB are limited to an approximately 30 foot by 35 foot area; outside of that area there were no detectable levels of DCB. However, the detection limits for most of the pre-SI samples were between 1.0

ppm (1000 ppb) and 2.0 ppm (2000 ppb) for DCB which is actually higher than the action level developed with the Partition Model. It has been assumed that removing all soil with measured (detectable) levels of DCB (based on the existing data) will effectively remove all soil containing more than 200 ppb DCB. Additional field sampling prior to the actual removal will be performed to confirm this assumption. If the field sampling prior to removal reveals that the contamination is significantly more widespread than originally anticipated, it may be necessary to reevaluate the cleanup level of 200 DCB.

6.1.1.2 Detailed Description

Soil containing more than 200 ppb Dichlorobenzene will be excavated. Due to the limited available information, pre removal sampling will be conducted to refine the remediation limits. Based on the current information, the area to be excavated will be approximately 30 feet by 35 feet and 4 feet deep as shown on Figure 7. In order to accomplish the excavation the concrete pad will be demolished and TCLP tested for VOCs, SVOCs and all inorganic parameters. The demolished concrete (approximately 5 cubic yards) will be transported off-site to be treated (if necessary) and disposed of at a permitted landfill. Prior to transport off-site, the excavated soil will be analyzed for total DCB in order to determine the proper method of disposal. As specified in 40 CFR Part 268.43, Table CCW (which is discussed in Section 6.1.5.3 of this document), the contaminated soil (approximately 150 cubic yards) with measured levels of DCB greater than or equal to 6200 ppb will be transported to a permitted incinerator in accordance with all local, state and federal laws and regulations. Contaminated soil with measured levels of DCB less than 6200 ppb will be transported directly to a permitted hazardous waste landfill. Post excavation sampling will be conducted to confirm that all soil containing greater than 200 ppb DCB has been removed. If any soil containing more than 200 ppb DCB still remains it will be excavated and transported off site in the same manner as the other contaminated soil. Following sampling the excavated area will be backfilled to meet original grades with certified clean material. Then the area will be seeded and restored to original condition.

6.1.1.2.1 Quality Assurance/Quality Control

All pre-removal sampling will be done in accordance with the Chemical Data Acquisition Plan (CDAP) for Site SS-017. Post removal sampling will be subject to the same requirements as the pre-removal sampling.

6.1.1.3 Disposal of Contaminated Soils

This removal action calls for off-site incineration of excavated soils with measured concentrations of DCB greater than or equal to 6200 ppb. According to 40 CFR 268 Subpart D, entitled "Treatment Standards," the best demonstrated available technology for the treatment of chlorinated aromatics is incineration. As part of these studies incinerator facilities throughout the country have been contacted and indicated their willingness to accept the waste. The final decision as to which incineration facility will be used is left up to the contractor to provide for more competitive bids.

6.1.2 Contribution to Remedial Performance

The proposed action is being implemented to remove contaminated soils so that the contaminants do not reach the groundwater. The main objective of the removal action is to remove the soils containing DCB; In the process, other contaminants released with the DCB (i.e., Cresol, Volatile Organic Compounds, etc.) will also be removed.

The Remedial Investigation which is currently scheduled for the spring will further characterize the site and identify other contaminants which are found in lower concentrations than the DCB. Based on the results of the RI a Feasibility Study will be conducted and ultimately a Record of Decision (ROD) will be issued for any necessary additional actions at Site SS-017.

Since the RI has not yet been started it is difficult to predict the ultimate remedial action at this site, however, based on the available information, this removal action should contribute to the efficient performance of most long-term remedial actions.

6.1.3 Description of Alternative Technologies

The proposed removal action is "time critical" and does not require the preparation of an Engineering Evaluation/Cost Analysis or a review of alternative technologies.

6.1.4 Engineering Evaluation/Cost Analysis (EE/CA)

"Time critical" removal actions do not require preparation of an EE/CA.

6.1.5 Applicable or Relevant and Appropriate Requirements (ARARs)

6.1.5.1 General

All ARAR's will be strictly adhered to during the removal action. The following ARAR's have been identified for this removal action:

- Standards Applicable to Generators of Hazardous Waste (Title 40, Section 262, Code of Federal Regulations).
- Contingency Plan and Emergency Procedures (Title 40, Section 264, Subpart D, Code of Federal Regulations).
- General Facility Standards and Operations (Title 40, Section 264, Code of Federal Regulations).
- Hazardous Materials Regulations (Title 29, Section 1910, Code of Federal Regulations).
- Health and Safety Program (Title 29, Section 1910, Code of Federal Regulations).
- NYSDEC Hazardous Waste Management Regulations (Title 6, NYCRR, Part 372).
- NYSDEC Hazardous Waste Management Regulations (Title 6, NYCRR, Part 373).
- (Title 49, Parts 171 through 179, Code of Federal Regulations).

6.1.5.2 Removal Action

The National Oil and Hazardous Substance Pollution Contingency Plan (NCP) Section 300.415 lists eight factors which shall be considered in determining the appropriateness of a removal action. The following factors apply to Site SS-017:

- Actual or potential exposure to nearby human populations, animal, or the food chain from hazardous substances or pollutants or contaminants.
- High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.
- Other situations or factors that may pose threats to public health or welfare of the environment (i.e., the possibility for groundwater contamination).

6.1.5.3 Disposal

Under Federal Law 40 CFR, Part 268, "Land Disposal Restrictions (LDR)," listed and characteristic hazardous wastes are banned for land disposal unless specified treatment criteria are achieved. The contaminated soils at Site SS-017 contain Dichlorobenzene which is a listed waste designated as U070, U071 and U072. Effective August 8, 1990, these soils must be treated in accordance with Subpart D of the above mentioned regulation prior to land disposal. The USEPA has set concentration treatment standards for the three DCB isomers. According to 40 CFR Part 268.43 table CCW, the LDR treatment concentrations for DCBs are 6.2 mg/kg for each isomer. This rule requires that all soil contaminated with DCB at a concentration greater than 6.2 mg/kg be treated by a non-specified technology so the treated soil has a final DCB concentration of less than 6.2 mg/kg for each isomer. Soil contaminated with less than 6.2 mg/kg DCB is still considered a listed hazardous waste requiring disposal at a hazardous waste landfill. However, there is no "action level" or minimum soil concentration of DCB in soil, below which, remedial action is not required.

6.1.6 Project Schedule

"Time critical" removal actions require that a planning period of less than six months exists before on-site activities are initiated. The 6 month period began on December 31, 1991

(transmittal of a letter of intent to perform a removal action to the EPA and NYSDEC). To meet time objectives the following schedule is proposed:

- March 1, 1992 - Submit Final Action Memorandum to the EPA and DEC and begin removal design based on assumed remediation limits
- April 15, 1992 - Initiate on-site activities to delineate contamination limits and confirm design assumptions.
- April 15, 1992 - Advertise removal contract.
- June 1, 1992 - Verify design based on sampling and testing.
- July 1, 1992 - Award contract and mobilize for removal action.
- Sept. 30, 1992 - Complete removal action.

6.2 Estimated Costs

A preliminary cost estimate has been prepared based on the following assumptions:

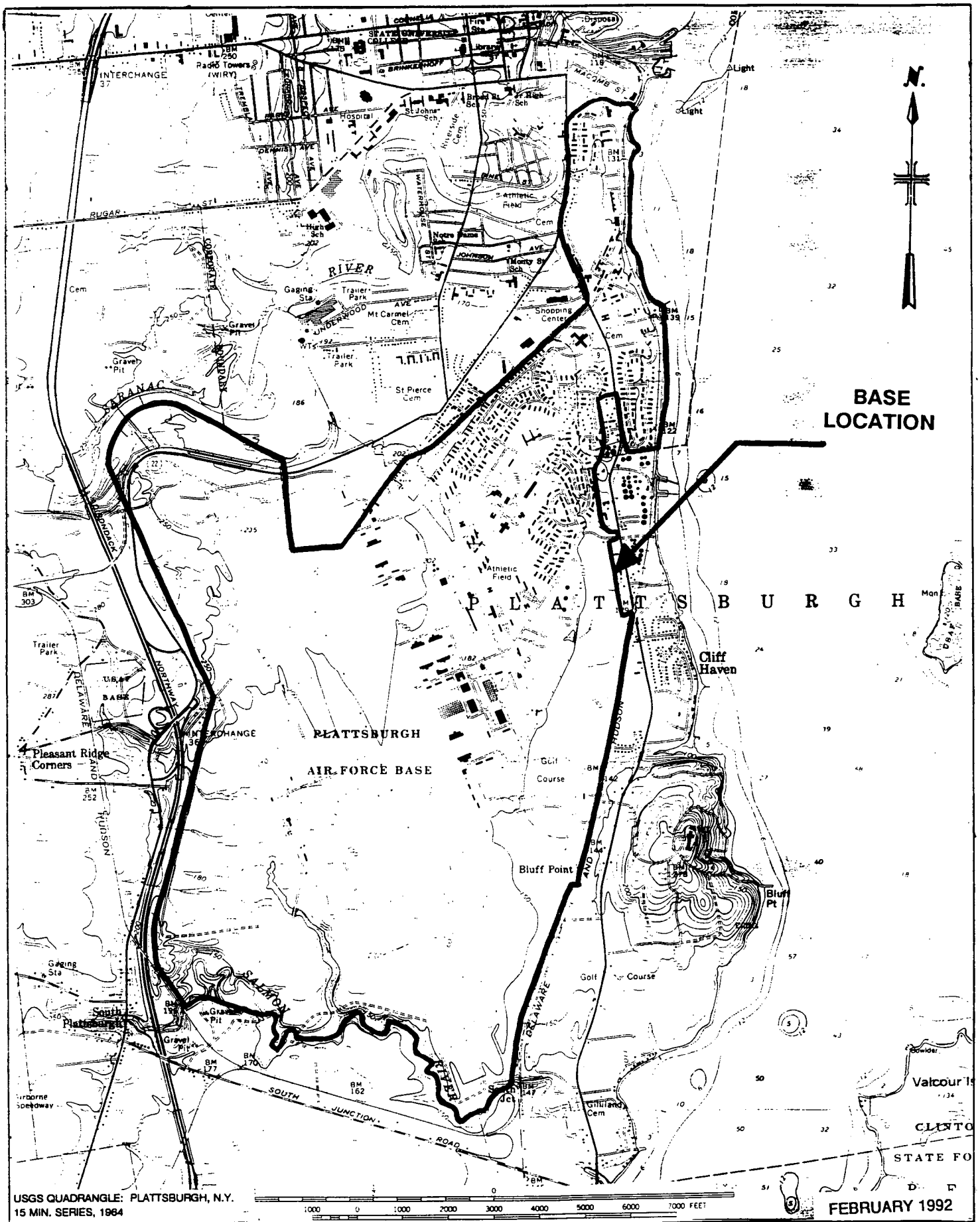
- 150 cubic yards of soil will be excavated and transported off-site to be incinerated.
- All costs are based on utilizing an incineration facility in the midwest. (It should be noted that pre-removal sampling may reveal that some of the soil has measured levels of DCB below 6200 ppb, thereby eliminating the need for incineration before disposal. This could significantly lower costs).
- A filter fabric (for separation) will be placed in the excavation and the area will be backfilled to original grades with clean material and seeded.
- The work will be done by one prime contractor who may subcontract some work items.

The total estimated cost for the removal action is between $500,000 and $1,000,000.

7.0 EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

As previously discussed, there is an immediate danger of contamination of the groundwater and subsequent migration of contamination. If this removal action is not implemented the threat exists that the contaminants (i.e., DCB) will reach the groundwater, which is only 5 to 6 feet below the surface, and migrate downward and in the direction of groundwater flow. Should this occur, the potential for exposure to human populations, animals or the food chain will be increased.

FIGURES AND TABLES

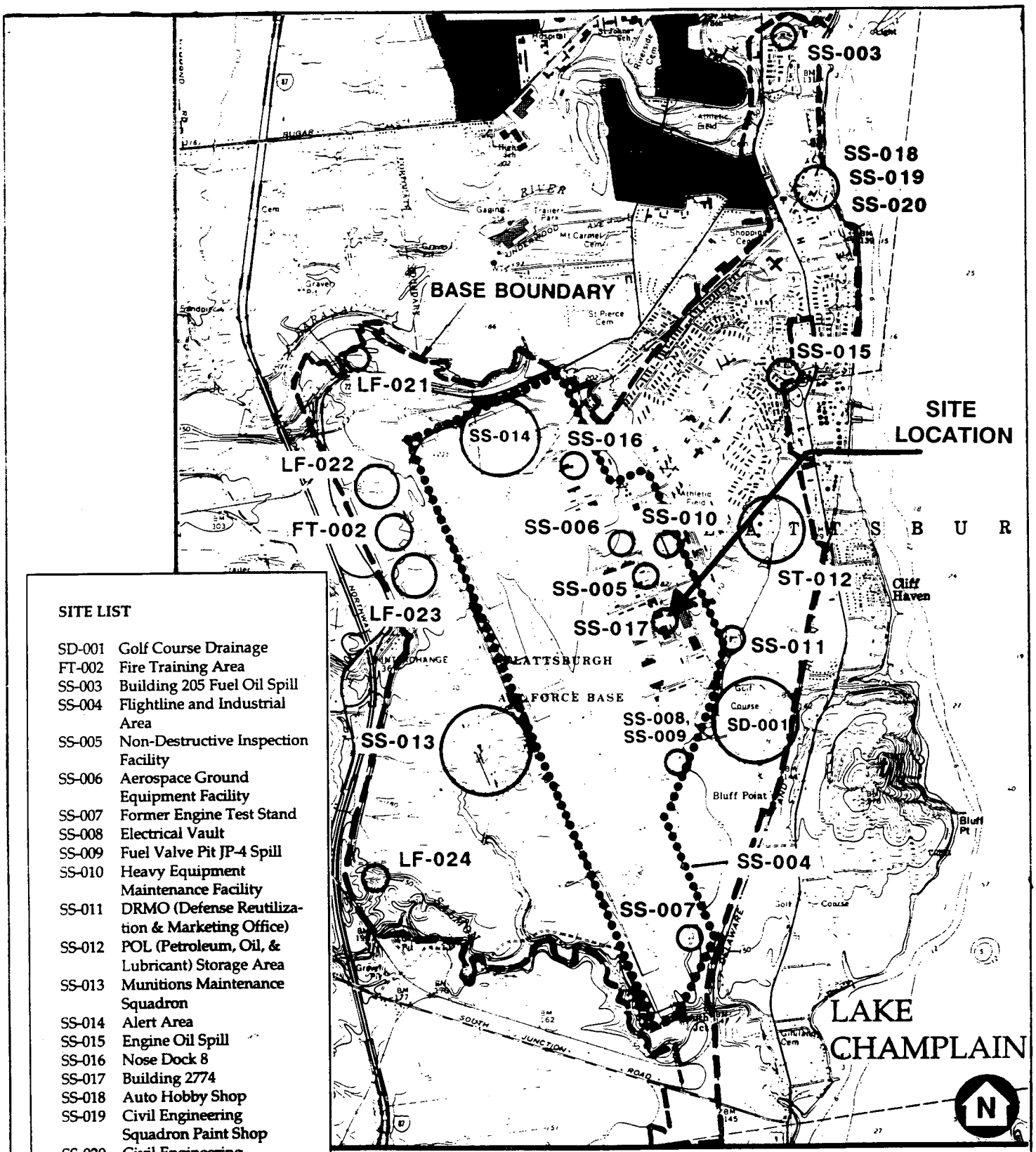


US Army Corps of Engineers

ACTION MEMORANDUM
BASE LOCATION MAP
PLATTSBURGH AIRFORCE BASE
USACE CONTRACT NO. DACA41-91-C-0121

MALCOLM PIRNIE, INC.

FIGURE 1



SITE LIST

SD-001	Golf Course Drainage
FT-002	Fire Training Area
SS-003	Building 205 Fuel Oil Spill
SS-004	Flightline and Industrial Area
SS-005	Non-Destructive Inspection Facility
SS-006	Aerospace Ground Equipment Facility
SS-007	Former Engine Test Stand
SS-008	Electrical Vault
SS-009	Fuel Valve Pit JP-4 Spill
SS-010	Heavy Equipment Maintenance Facility
SS-011	DRMO (Defense Reutilization & Marketing Office)
SS-012	POL (Petroleum, Oil, & Lubricant) Storage Area
SS-013	Munitions Maintenance Squadron
SS-014	Alert Area
SS-015	Engine Oil Spill
SS-016	Nose Dock 8
SS-017	Building 2774
SS-018	Auto Hobby Shop
SS-019	Civil Engineering Squadron Paint Shop
SS-020	Civil Engineering Squadron Pesticide Tank
LF-021	Former Landfill 1956-1959
LF-022	Former Landfill 1959-1966
LF-023	Former Landfill 1966-1981
LF-024	Construction Spoils Landfill 1980-1986

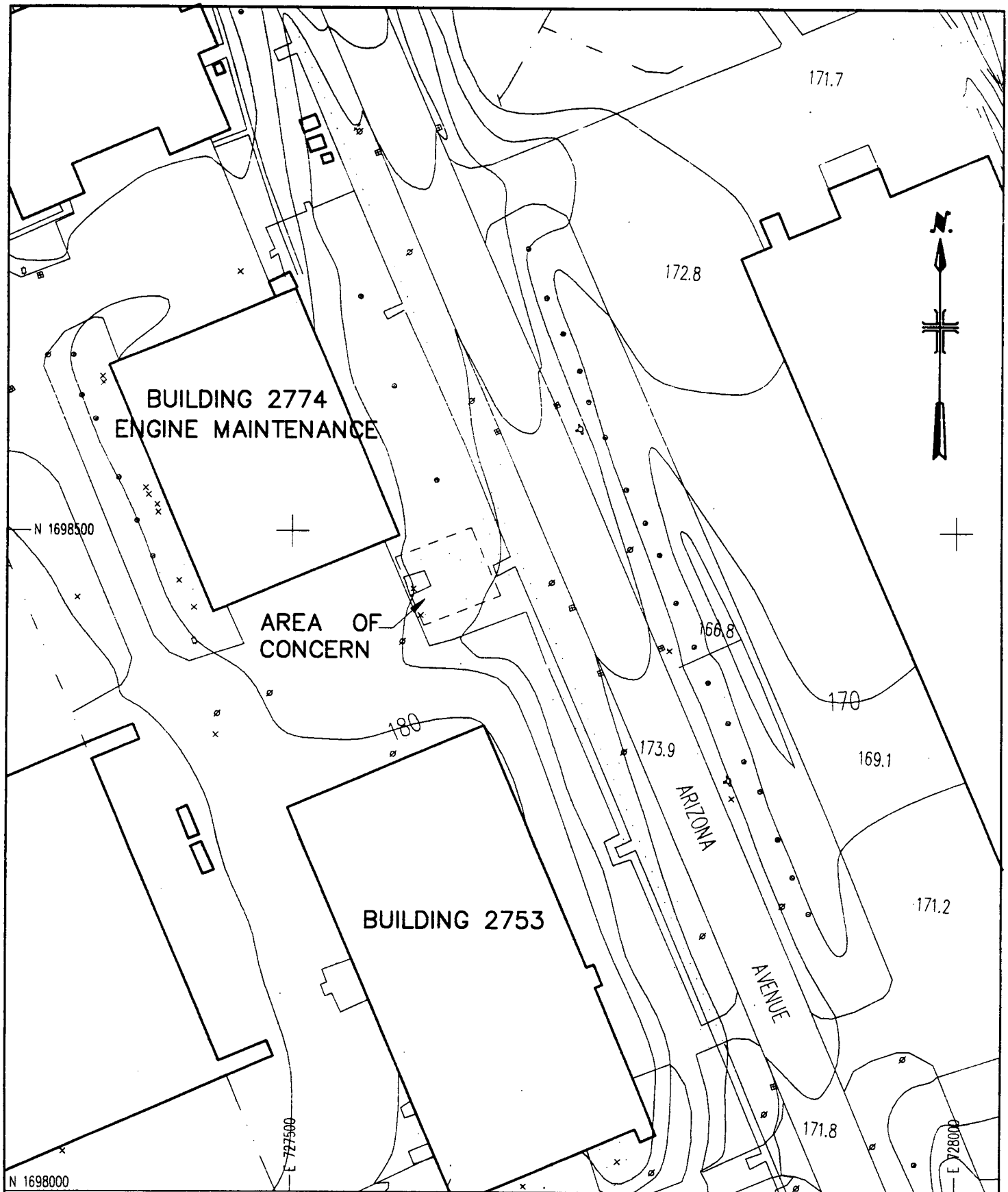
FEBRUARY 1992

US Army Corps of Engineers

ACTION MEMORANDUM
SITE LOCATION MAP
PLATTSBURGH AIRFORCE BASE
USACE CONTRACT NO. DACA41-91-C-0121

MALCOLM PIRNIE, INC.

FIGURE 2



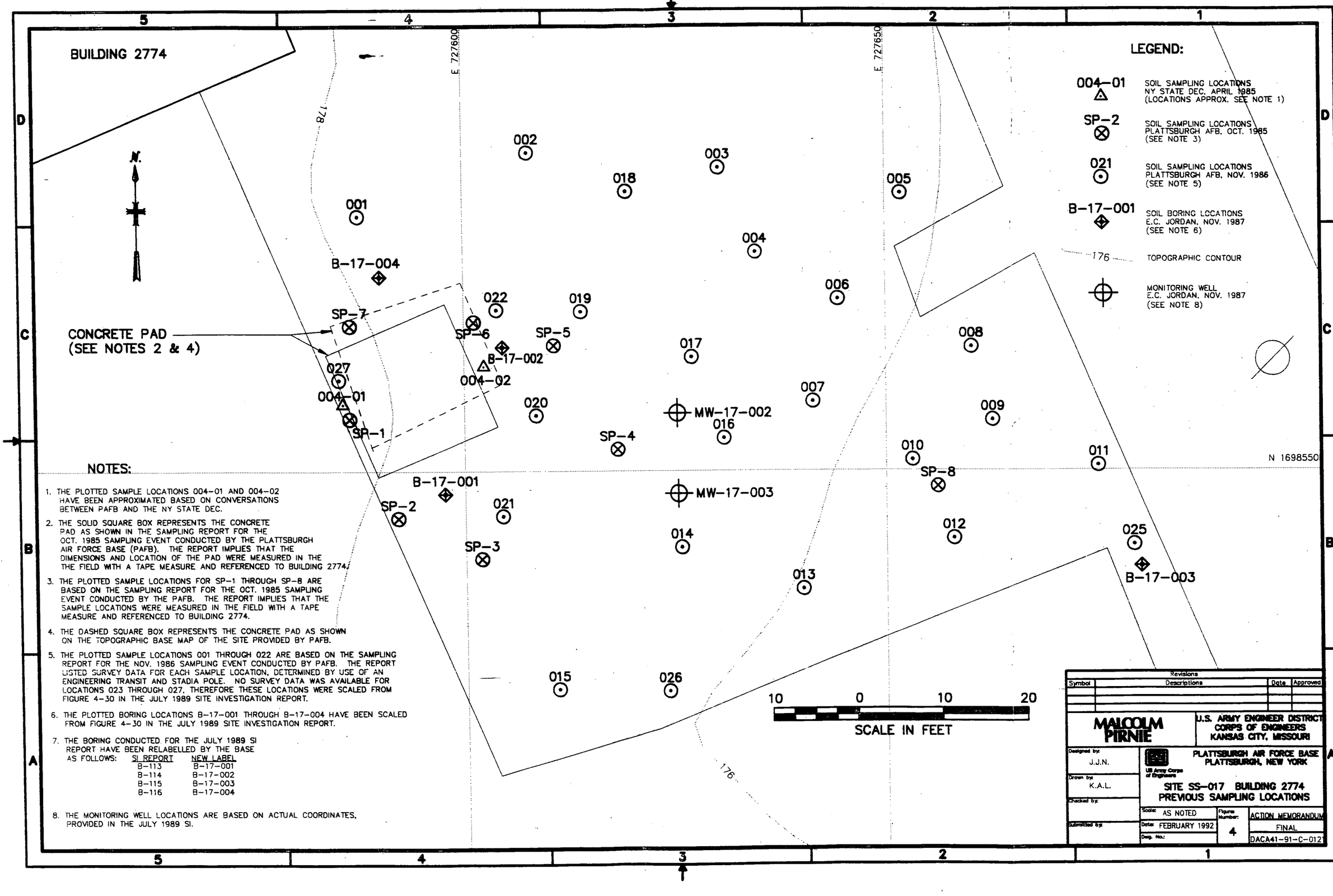
FEBRUARY 1992

US Army Corps of Engineers

ACTION MEMORANDUM
BUILDING 2774 (SS-017)
SITE MAP
PLATTSBURGH AIR FORCE BASE
USACE CONTRACT NO. DACA41-91-C-0121

MALCOLM PIRNIE, INC.

FIGURE 3



NOTES:

1. THE PLOTTED SAMPLE LOCATIONS 004-01 AND 004-02 HAVE BEEN APPROXIMATED BASED ON CONVERSATIONS BETWEEN PAFB AND THE NY STATE DEC.
2. THE SOLID SQUARE BOX REPRESENTS THE CONCRETE PAD AS SHOWN IN THE SAMPLING REPORT FOR THE OCT. 1985 SAMPLING EVENT CONDUCTED BY THE PLATTSBURGH AIR FORCE BASE (PAFB). THE REPORT IMPLIES THAT THE DIMENSIONS AND LOCATION OF THE PAD WERE MEASURED IN THE THE FIELD WITH A TAPE MEASURE AND REFERENCED TO BUILDING 2774.
3. THE PLOTTED SAMPLE LOCATIONS FOR SP-1 THROUGH SP-8 ARE BASED ON THE SAMPLING REPORT FOR THE OCT. 1985 SAMPLING EVENT CONDUCTED BY THE PAFB. THE REPORT IMPLIES THAT THE SAMPLE LOCATIONS WERE MEASURED IN THE FIELD WITH A TAPE MEASURE AND REFERENCED TO BUILDING 2774.
4. THE DASHED SQUARE BOX REPRESENTS THE CONCRETE PAD AS SHOWN ON THE TOPOGRAPHIC BASE MAP OF THE SITE PROVIDED BY PAFB.
5. THE PLOTTED SAMPLE LOCATIONS 001 THROUGH 022 ARE BASED ON THE SAMPLING REPORT FOR THE NOV. 1986 SAMPLING EVENT CONDUCTED BY PAFB. THE REPORT LISTED SURVEY DATA FOR EACH SAMPLE LOCATION, DETERMINED BY USE OF AN ENGINEERING TRANSIT AND STADIA POLE. NO SURVEY DATA WAS AVAILABLE FOR LOCATIONS 023 THROUGH 027, THEREFORE THESE LOCATIONS WERE SCALED FROM FIGURE 4-30 IN THE JULY 1989 SITE INVESTIGATION REPORT.
6. THE PLOTTED BORING LOCATIONS B-17-001 THROUGH B-17-004 HAVE BEEN SCALED FROM FIGURE 4-30 IN THE JULY 1989 SITE INVESTIGATION REPORT.
7. THE BORING CONDUCTED FOR THE JULY 1989 SI REPORT HAVE BEEN RELABELLED BY THE BASE AS FOLLOWS:

SI REPORT	NEW LABEL
B-113	B-17-001
B-114	B-17-002
B-115	B-17-003
B-116	B-17-004

8. THE MONITORING WELL LOCATIONS ARE BASED ON ACTUAL COORDINATES, PROVIDED IN THE JULY 1989 SI.

Revisions			
Symbol	Descriptions	Date	Approved

MALCOLM PIRNIE

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: J.J.N.
Drawn by: K.A.L.
Checked by:
Submitted by:

US Army Corps of Engineers

PLATTSBURGH AIR FORCE BASE
PLATTSBURGH, NEW YORK

SITE SS-017 BUILDING 2774
PREVIOUS SAMPLING LOCATIONS

Scale: AS NOTED
Date: FEBRUARY 1992
Dwg. No.:
Figure Number: 4

ACTION MEMORANDUM
FINAL
DACA41-91-C-0121

BUILDING 2774

E. 727600

E. 727650

N 1698550

LEGEND:

- 004-01 — SOIL SAMPLING LOCATIONS, NY STATE DEC., APRIL 1985
- SP-2 — SOIL SAMPLING LOCATIONS, PLATTSBURGH AFB, OCT. 1985
- 021 — SOIL SAMPLING LOCATIONS, PLATTSBURGH AFB, NOV. 1986
- B-17-001 — SOIL BORING LOCATIONS, E.C. JORDAN, NOV. 1987
- 176 — TOPOGRAPHIC CONTOUR
- MONITORING WELL, E.C. JORDAN, NOV. 1987
- – SAMPLE NOT ANALYZED
- ND — NOT DETECTED (i.e. BELOW DETECTION LIMIT OF THE INSTRUMENT)

001
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	ND
36	–

002
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

003
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	ND
36	–

004
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

005
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

006
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

007
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

008
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

009
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

010
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

011
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

012
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

013
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

014
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	ND
36	–

015
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	ND
36	–

016
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

017
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

018
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	ND
36	–

019
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

020
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	575
18	–
24	–
36	1360

021
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	98.0
18	–
24	140.0
36	–

022
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	890.0
18	–
24	146.0
36	–

026
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	ND
18	–
24	–
36	ND

B-17-001
10-21-85	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	23600
18	–
24	1400
36	–

B-17-002
4-16-85	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	9800
12	–
18	–
24	–
36	–

B-17-003
11-5-87	
DEPTH (INCHES)	TOTAL DCB(PPM)
12	–
24	–
36	–
48	–
60	–

B-17-004
10-21-85	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	3710
18	–
24	4600
36	–

004-01
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	156.0
12	–
18	–
24	–
36	0

004-02
10-21-85	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	5120
18	–
24	–
36	–

MW-17-002
11-5-87	
DEPTH (INCHES)	TOTAL DCB(PPM)
12	–
24	–
36	92.0
48	96.0
60	–

MW-17-003
10-21-85	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	3400
18	–
24	–
36	–

SP-1
4-16-85	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	ND
12	–
18	–
24	–
36	–

SP-2
10-21-85	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	700
18	–
24	1000
36	–

SP-3
10-21-85	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	–
18	1000
24	–
36	–

SP-4
10-21-85	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	1400
18	–
24	–
36	–

SP-5
10-21-85	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	5120
18	–
24	–
36	–

SP-6
4-16-85	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	9800
12	–
18	–
24	–
36	–

SP-7
10-21-85	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	1400
18	–
24	1400
36	–

SP-8
10-21-85	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	–
12	1400
18	–
24	–
36	–

025
11-18-86	
DEPTH (INCHES)	TOTAL DCB(PPM)
0	ND
12	ND
18	–
24	–
36	–

10 0 10 20

SCALE IN FEET

Revisions			
Symbol	Descriptions	Date	Approved

MALCOLM PIRNIE

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: J.J.N.
Drawn by: K.A.L.
Checked by:
Submitted by:

US Army Corps of Engineers

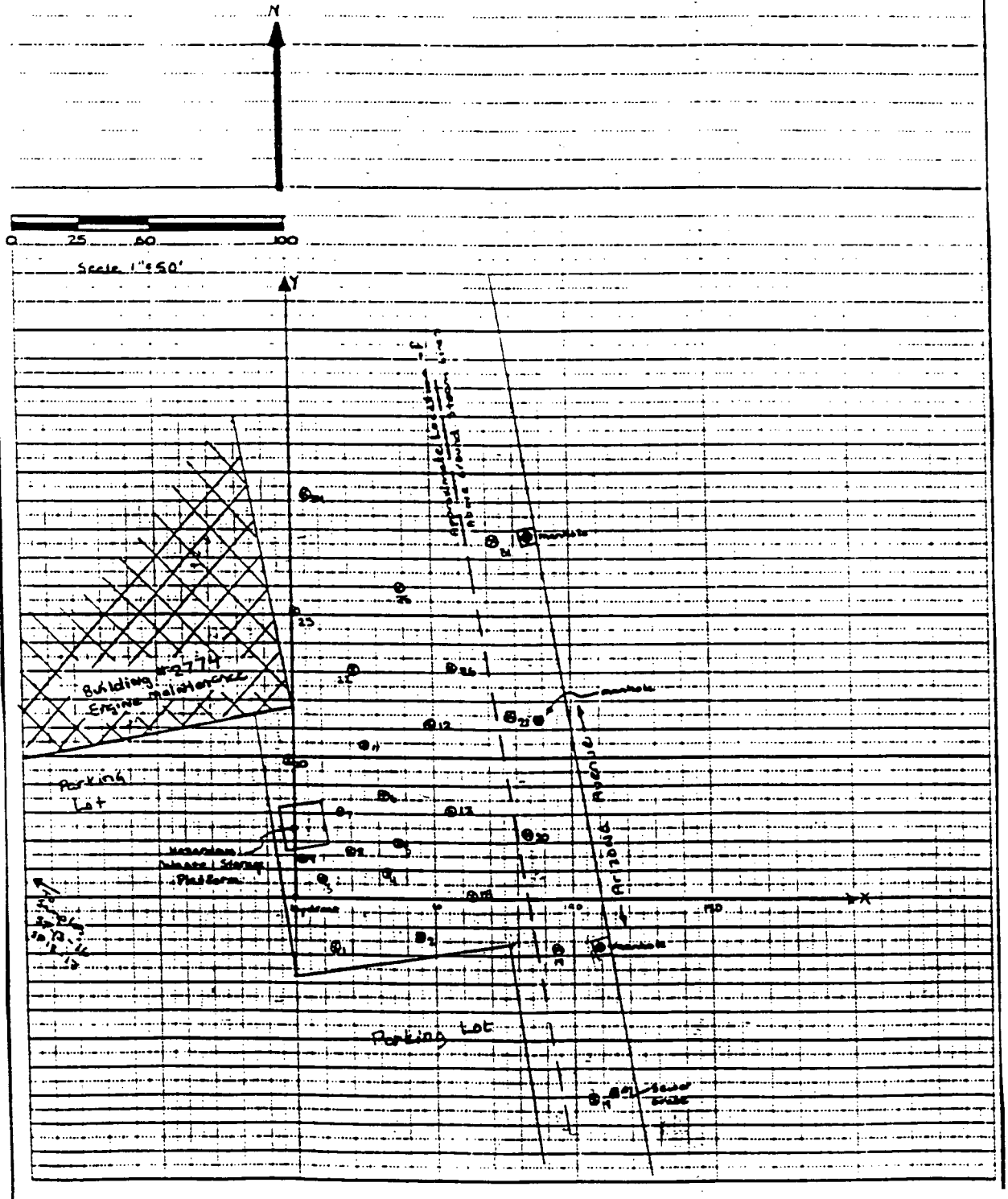
PLATTSBURGH AIR FORCE BASE
PLATTSBURGH, NEW YORK

SITE SS-017 BUILDING 2774
PREVIOUSLY MEASURED TOTAL
DICHLOROBENZENE CONCENTRATIONS

Scale: AS NOTED
Date: FEBRUARY 1992
Dwg. No.:
Figure Number: 5

ACTION MEMORANDUM
FINAL
DACA41-91-C-0121

PROJECT PLATTSBURGH AFB. (SP13) Building 2774 Hazardous Waste Accumulation Point	COMP. BY 3kB	JOB NO.
	CHK. BY	DATE 10/22/87



SOURCE: E.C. JORDAN CO.

FEBRUARY 1992

US Army Corps of Engineers

ACTION MEMORANDUM
BUILDING 2774 (SS-017)
S.I. SOIL GAS SURVEY LOCATIONS
PLATTSBURGH AIRFORCE BASE
USACE CONTRACT NO. DACA41-91-C-0121

MALCOLM PIRNIE, INC.

FIGURE 6

BUILDING 2774

E 727600

E 727650

N 1698550

178

176

LIMITS OF REMOVAL
(EXCAVATE TO 4 FEET
BELOW EXISTING GRADE)

CONCRETE PAD
(TO BE REMOVED)

B-17-001
B-17-002
B-17-003
B-17-004
MW-17-002
MW-17-003
004-01
004-02
SP-1
SP-2
SP-3
SP-4
SP-5
SP-6
001
002
003
004
005
006
007
008
009
010
011
012
013
014
015
016
017
018
019
020
021
022
025
026
027

N.

LEGEND:

004-01 — SOIL SAMPLING LOCATIONS NY STATE DEC, APRIL 1985

SP-2 — SOIL SAMPLING LOCATIONS PLATTSBURGH AFB, OCT. 1985

021 — SOIL SAMPLING LOCATIONS PLATTSBURGH AFB, NOV. 1986

B-17-001 — SOIL BORING LOCATIONS E.C. JORDAN, NOV. 1987

176 — TOPOGRAPHIC CONTOUR

MONITORING WELL E.C. JORDAN, NOV. 1987

10 0 10 20
SCALE IN FEET

Revisions			
Symbol	Descriptions	Date	Approved

MALCOLM PIRNIE

U.S. ARMY ENGINEER DISTRICT
CORPS OF ENGINEERS
KANSAS CITY, MISSOURI

Designed by: J.J.N.
Drawn by: K.A.L.
Checked by:
Submitted by:

US Army Corps of Engineers

PLATTSBURGH AIR FORCE BASE
PLATTSBURGH, NEW YORK

SITE SS-017 BUILDING 2774
LIMITS OF REMOVAL

Scale: AS NOTED
Date: FEBRUARY 1992
Dwg. No.:
Figure Number: 7

ACTION MEMORANDUM
FINAL
DACA41-91-C-0121

LAIBOWI2 : 0285472000\JOHN-AFB SCALE: 1:101 02/21, 1992 at 09:44

TABLE 1

SUMMARY OF PRE-SI ANALYTICAL DATA

SS-017-BUILDING 2774

SOIL SAMPLE STUDY #1 BY NYSDEC,16 APRIL 1985

	SAMPLE ANALYSIS	SAMPLE LOCATION	
1	ORGANIC PRIORITY ANALYSIS	004-01	004-02
a	2,4-DIMETHYLPHENOL	18,000ppb	790,000ppb
b	ACENAPHTHENE	ND*	TRACE**
c	1,2,4-TRICHLOROBENZENE	ND	TRACE
d	2-CHLORONAPHTHALENE	TRACE	ND
e	1,2-DICHLOROBENZENE	TRACE	920,000ppb
f	1,3-DICHLOROBENZENE	TRACE	1,200,000ppb
g	1,4-DICHLOROBENZENE	TRACE	1,000,000ppb
h	NAPHTHALENE	34,000ppb	13,000ppb
i	BIS(2-ETHYLHEXYL)PHTHALATE	TRACE	TRACE
j	BENZO(a)ANTHRACENE	ND	TRACE
k	CHRYSENE	14,000ppb	ND
l	ACENAPHTHYLENE	13,000ppb	ND
m	FLUORENE	TRACE	TRACE
n	PHENANTHRENE	TRACE	TRACE

NOTE: * ND=NONE DETECTED ABOVE THE AVERAGE REPORTING LIMIT OF 3,800 ppb FOR ACIDS AND 5,700PPB FOR B/N.

** TRACE=CONCENTRATIONS DETECTED BELOW THE AVERAGE REPORTING LIMIT.

	SAMPLE ANALYSIS	SAMPLE LOCATION	
2	INORGANIC ANALYSIS EP TOXICITY (METALS)	004-01	004-02
a	CADMIUM	ND*	0.017ppm
3	VOLATILE ORGANIC ANALYSIS EPA 624 METHOD	004-01	004-02
a	TOLUENE	73,000ppb	ND**
b	ETHYLBENZENE	120,000ppb	ND
c	TOTAL XYLENES	640,000ppb	49,000ppb
d	UNKNOWNS	TRACE***	ND
e	TOTAL DICHLOROBENZENES	ND	9,800,000ppb
	DILUTION FACTOR	520,081	570,081
4	PESTICIDE/HERBICIDE ANALYSIS	004-01	004-02
a	ALL COMPOUNDS	ND****	ND

NOTES: * ND=<0.010ppm

**ND=NOT DETECTED

***TRACE=PRESENT

****ND=NOT DETECTED AT OR ABOVE REPORTING LIMIT INDICATED ON DATA SHEET.

TABLE 1 (cont.)
SUMMARY OF PRE-SI ANALYTICAL DATA
SS-017-BUILDING 2774

SOIL SAMPLE STUDY #2 OCTOBER 21, 1985
OIL AND GREASES PERFORMED BY SGPB AND DEEV

SAMPLE LOCATION	BASE SAMPLE NUMBER	OILS/GREASES(ug/l)	OILS/GREASES(mg/l)	SAMPLE DEPTH(in)
SP-1	CS850632	27,200	27.2	12
SP-1	CS850633	8,660	8.66	24
SP-2	CS850634	59,800	59.8	12
SP-2	CS850635	14,500	14.5	24
SP-3	CS850636	11,400	11.4	18
SP-4	CS850637	337	0.34	12
SP-5	CS850638	157	0.16	12
SP-6	CS850639	16,900	16.9	12
SP-6	CS850640	14,500	14.5	24
SP-7	CS850641	13,400	13.4	12
SP-7	CS850642	BIT*	BIT*	24
SP-8	CS850643	1,310	1.31	4

BIT* - Broken in Transit

TABLE 1 (cont.)
SUMMARY OF PRE-SI ANALYTICAL DATA
SS-017-BUILDING 2774

SOIL STUDY # 2, OCTOBER 21, 1985, ANALYSIS FOR CHLOROBENZENE FAMILY

SAMPLE LOCATION	BASE SAMPLE NUMBER	CHLOROBENZENE	1-2,DICHLOROBENZENE	1-3,DICHLOROBENZENE	1-4,DICHLOROBENZENE	SAMPLE DEPTH(in)
SP-1	CS850652	ND	3,600ppm	ND	20,000ppm	12
SP-1	CS850653	ND	ND	ND	ND	24
SP-2	CS850654	ND	ND	ND	ND	12
SP-2	CS850655	ND	ND	ND	ND	24
SP-3	CS850656	ND	ND	ND	ND	18
SP-4	CS850657	ND	ND	ND	3,400ppm	12
SP-5	CS850658	ND	ND	ND	3,700ppm	12
SP-5	CS850659	610ppm	ND	ND	3,100ppm	12
SP-6	CS850660	ND	ND	ND	4,600ppm	24
SP-7	CS850661	ND	ND	ND	1,400ppm	12
SP-7	CS850662	ND	ND	ND	1,400ppm	24
SP-8	CS850663	ND	ND	ND	1,400ppm	4
SP-1 DUP	CS850664	ND	ND	ND	1,400ppm	12
SP-1 DUP	CS850665	ND	ND	ND	1,400ppm	24
SP-2 DUP	CS850666	ND	ND	ND	700ppm	12
SP-2 DUP	CS850667	ND	ND	ND	1,000ppm	24
SP-3 DUP	CS850668	ND	ND	ND	1,000ppm	18
SP-4 DUP	CS850669	ND	ND	ND	1,000ppm	12
SP-5 DUP	CS850670	ND	1,200ppm	820ppm	3,100ppm	12
SP-6 DUP	CS850671	ND	700ppm	ND	1,300ppm	12
SP-6 DUP	CS850672	ND	ND	ND	ND	24
SP-7 DUP	CS850673	ND	ND	ND	ND	12
SP-7 DUP	CS850674	ND	ND	ND	680ppm	24
SP-7 DUP	CS850675	ND	ND	ND	ND	4

NOTES: DUP = DUPLICATE. SAMPLES DESIGNATED AS DUP WERE NOT SUPPOSED TO BE ANALYZED AS DUPLICATES BUT ACCIDENTALLY WERE. THERE IS ALMOST NO CORRELATION BETWEEN THE ORIGINAL SAMPLES AND THE DUPLICATE, THEREFORE, THIS DATA IS HIGHLY QUESTIONABLE.

TABLE 1 (cont.)
SUMMARY OF PRE-SI ANALYTICAL DATA
SS-017-BUILDING 2774

SOIL SAMPLE STUDY #3, NOVEMBER 18, 1986, VOLATILE AROMATICS ANALYSIS

SAMPLE SITE	SAMPLE NUMBER	DEPTH(IN)	BENZENE	TOTAL DICHLOROBENZENES	ETHYLBENZENE	TOLUENE	TOTAL XYLENE
001	GS860454	12	ND	ND	ND	ND	ND
001	GS860455	24	ND	ND	ND	ND	ND
002	GS860456	12	ND	ND	ND	ND	ND
002	GS860457	36	ND	ND	ND	ND	ND
003	GS860458	12	ND	ND	ND	ND	ND
003	GS860459	36	ND	ND	ND	ND	ND
004	GS860460	12	ND	ND	ND	ND	ND
004	GS860461	36	ND	ND	ND	ND	ND
005	GS860462	12	ND	ND	ND	ND	ND
005	GS860463	36	ND	ND	ND	ND	ND
006	GS860464	12	ND	ND	ND	ND	ND
006	GS860465	36	ND	ND	ND	ND	ND
007	GS860466	12	ND	ND	ND	ND	ND
007	GS860467	36	ND	ND	ND	ND	ND
008	GS860468	12	ND	ND	ND	ND	ND
008	GS860469	36	ND	ND	ND	ND	ND
009	GS860470	12	ND	ND	ND	ND	ND
009	GS860471	36	ND	ND	ND	ND	ND
010	GS860472	12	ND	ND	ND	ND	ND
010	GS860473	36	ND	ND	ND	ND	ND
011	GS860474	12	ND	ND	ND	ND	ND
011	GS860475	36	ND	ND	ND	ND	ND
012	GS860476	12	ND	ND	ND	ND	ND
012	GS860477	36	ND	ND	ND	ND	ND
013	GS860478	12	ND	ND	ND	ND	ND
013	GS860479	36	ND	ND	ND	ND	ND
014	GS860480	12	ND	ND	ND	ND	ND
014	GS860481	24	ND	ND	ND	ND	ND
015	GS860482	12	ND	ND	ND	ND	ND
015	GS860483	24	ND	ND	ND	ND	ND
016	GS860484	12	ND	ND	ND	ND	ND
016	GS860485	36	ND	ND	ND	ND	ND
017	GS860486	12	ND	ND	ND	ND	ND
017	GS860487	36	ND	ND	ND	ND	ND
018	GS860488	12	ND	ND	ND	ND	ND
018	GS860489	24	ND	ND	ND	ND	ND
019	GS860490	12	ND	ND	ND	ND	ND
019	GS860491	30	ND	ND	ND	ND	ND
020	GS860492	12	ND	575ug/gm	3.1ug/gm	2.7ug/gm	16.0ug/gm
020	GS860493	36	1.0ug/gm	1360ug/gm	49.0ug/gm	30.0ug/gm	180.0ug/gm
021	GS860473	12	ND	98.0ug/gm	ND	4.9ug/gm	100.0ug/gm
021	GS860473	24	ND	140.0ug/gm	ND	11.0ug/gm	91.0ug/gm
022	GS860473	12	ND	890.0ug/gm	2.0ug/gm	7.9ug/gm	100.0ug/gm
022	GS860473	24	ND	146.0ug/gm	2.8ug/gm	10.0ug/gm	140.0ug/gm

TABLE 1 (cont.)
SUMMARY OF PRE-SI ANALYTICAL DATA
SS-017-BUILDING 2774

SOIL SAMPLE STUDY #3, NOVEMBER 18, 1986, VOLATILE AROMATICS ANALYSIS

SAMPLE SITE	SAMPLE NUMBER	DEPTH(IN)	BENZENE	TOTAL DICHLOROBENZENES	ETHYLBENZENE	TOLUENE	TOTAL XYLENE
023	GS860473	12	ND	ND	ND	ND	ND
024	GS860473	12	ND	ND	ND	ND	ND
025	GS860473	12	ND	ND	ND	ND	ND
025	GS860473	SURFACE	ND	ND	ND	ND	ND
026	GS860473	SURFACE	ND	ND	ND	ND	ND
027	GS860503	SURFACE	ND	155.0ug/gm	4.1ug/gm	3.0ug/gm	12.0UG/GM
LOWER DETECTION LIMITS FOR ANALYSES			1.0ug/gm	0.2ug/gm	0.2ug/gm	0.2ug/gm	0.2ug/gm

NOTES: CONVERSION FACTOR 1.0ug/gm=1.0 ppm

TABLE 2
SUMMARY OF S.I. SOIL GAS SURVEY DATA
BUILDING 2774 (SS-017)

DATE: 10/22/87
TO: 11/02/87 NUMBER OF PROBES: 26

SAMPLE NUMBER	DEPTH OF PROBLE (FT)	HALOCARBONS (ng/L)				HYDROCARBONS (ug/L)			
		TCA	TCE	PCE	TOTAL	BENZENE	TOLUENE	XYLENE	TOTAL
SP13-1	4	366	6695	95	7157	0.05	<0.02	<0.02	0.05
SP13-2	4	12	723	8	743	<0.02	<0.02	<0.02	<0.02
SP13-3	4	5	8720	4	8729	203	615	59	877
SP13-4	4	6	574	1	581	<0.02	1.57	<0.02	1.57
SP13-5	4	11	1052	<1	1063	<0.02	0.4	<0.02	0.4
SP13-6	4	14	2350	<1	2364	<0.02	0.17	<0.02	0.17
SP13-7	4	129	13868	3	14000	4	4	<0.02	8
SP13-8	4	12	795	1	808	<0.02	0.42	<0.02	0.42
SP13-9	4	41	17416	12	17469	SAMPLE LOST - SEPTUM LEAK			
SP13-10	4	1	235	2	238	<0.02	0.61	0.08	0.69
SP13-10D	4	11	1610	13	1634	0.34	0.21	<0.02	0.55
SP13-11	4	2	312	3	317	<0.02	0.29	<0.02	0.29
SP13-12	4	<1	4.7	<1	5	<0.02	0.8	<0.02	0.8
SP13-13	4	<1	17	<1	17	<0.02	1.98	0.32	2.3
SP13-15	4	<1	<1	<1	<1	<0.02	0.17	<0.02	0.17
SP13-16	5	<1	8	<1	8	<0.02	<0.02	0.14	0.14
SP13-17	5	2	12	7	21	<0.02	<0.02	<0.02	<0.02
SP13-18	4	<1	<1	3	3	<0.02	0.11	0.13	0.24
SP13-19	4	1007	2456	14	3476	<0.02	0.13	0.08	0.21
SP13-19D	4	753	1827	15	2595	<0.02	0.17	<0.02	0.17
SP13-20	3.5	<1	<1	<1	<1	<0.02	<0.02	0.07	0.07
SP13-21	4	2	25	<1	27	<0.02	0.05	0.09	0.14
SP13-22	4	<1	6	<1	6	<0.02	0.13	0.09	0.22
SP13-23	4	3	6	2	11	<0.02	0.15	<0.02	0.15
SP13-24	4	<1	3	<1	3	<0.02	0.18	0.06	0.24
SP13-25	4	<1	5	<1	5	<0.02	0.04	<0.02	0.04
SP13-26	4	<1	4	2	6	<0.02	0.08	<0.02	0.08
SP13-31	4	<1	15	1	16	<0.02	<0.02	<0.02	<0.02

NOTE: D DENOTES A DUPLICATE SAMPLE

TABLE 3
SUMMARY OF SI ANALYTICAL DATA
SS-017-BUILDING 2774

SAMPLE LOCATION:				B-17-001		B-17-001		B-17-001		B-17-001		B-17-001	
SAMPLE ID:			SP13SBLANK	SP13TB1131		SP13TB1132		SP13TB1133		SP13TB1134		SP13TB1135	
DATE SAMPLED:			11/05/87	11/05/87		11/05/87		11/05/87		11/05/87		11/06/87	
DEPTH (Ft.):			0	1		2		3		4		5	
MATRIX:			SOIL	SOIL		SOIL		SOIL		SOIL		SOIL	
INORGANIC COMPOUNDS	ANALYTICAL METHOD	CRDL mg/kg											
Aluminum	P	40	NR	NR		NR		NR		1190		NR	
Arsenic	F	2	NR	NR		NR		NR		0.58	[]	NR	
Barium	P	40	NR	NR		NR		NR		298		NR	
Calcium	P	1000	NR	NR		NR		NR		77	[]E*	NR	
Chromium	P	2	NR	NR		NR		NR		4.9		NR	
Copper	P	5	NR	NR		NR		NR		6.1		NR	
Iron	P	2	NR	NR		NR		NR		2750	E	NR	
Magnesium	P	1000	NR	NR		NR		NR		532	[]E*	NR	
Manganese	P	3	NR	NR		NR		NR		18	EN	NR	
Nickel	P	8	NR	NR		NR		NR		5.8	[]	NR	
Vanadium	P	10	NR	NR		NR		NR		2.7	[]E	NR	
Zinc	P	4	NR	NR		NR		NR		55	EN*	NR	
Lead	P/F	1	NR	1.1		2		1		3.6		1.5	
ASSOCIATED BLANK:				A 13108-2		A 13108-2		A 13108-3		A 13108-3		A 13108-3	
VOLATILE ORGANIC COMPOUNDS		CRDL ug/kg											
Benzene		5	-	-		-		-		337600	UJB	-	
Chlorobenzene		5	-	-		-		-		-		6.6	
Chloroform		5	2.5	J	14.4	UJB	12.9	UJB	-		-		1.8	J
Ethylbenzene		5	-		-		-		7200		17000		8.1	
Methylene Chloride		5	63	UJB	117.8	UJB	164.9	UJB	280	J	379800	UJB	73.1	UJB
1,1,2,2-Tetrachloroethane		5	-		-		-		270	J	-		-	
Toluene		5	-		-		6		3600		17000		14	
Trichloroethene		5	-		-		-		280	J	6600		1.6	J
Acetone		10	180	UJB	222.7	UJB	70	UJB	217600	UJB	358699	UJB	209.1	UJB

TABLE 3 (cont.)
SUMMARY OF SI ANALYTICAL DATA
SS-017-BUILDING 2774

SAMPLE LOCATION:			B-17-001	B-17-001	B-17-001	B-17-001	B-17-001
SAMPLE ID:		SP13SBLANK	SP13TB1131	SP13TB1132	SP13TB1133	SP13TB1134	SP13TB1135
DATE SAMPLED:		11/05/87	11/05/87	11/05/87	11/05/87	11/05/87	11/06/87
DEPTH (Ft.):		0	1	2	3	4	5
MATRIX:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
4-Methyl-2-Pentanone	10	-	-	-	-	-	-
Xylenes (Total)	5	-	-	-	34000	72000	390
1,2-Dichloroethene(Total)	5	-	-	2000	-	5300	-
DILUTION FACTOR:		1	1.31	1.03	136	211	1.16
ASSOCIATED BLANK:		VBLK1115 GB871115BO3	VBLK1116 GB871116B18	VBLK1117 GC871117A14	VBLK1120	VBLK1118	VBLK1115 GB871115BO3
SEMI-VOLATILE ORGANIC COMPOUNDS	CRDL ug/kg						
Acenaphthene	330	-	NR	NR	230 J	-	NR
Anthracene	330	-	NR	NR	140 J	-	NR
Benzo(a)Anthracene	330	-	NR	NR	93 J	-	NR
bis(2-Chloroisopropyl)Ether	330	-	NR	NR	-	-	NR
1,2-Dichlorobenzene	330	-	NR	NR	41000 D	41000 D	NR
1,3-Dichlorobenzene	330	-	NR	NR	21000 D	23000 D	NR
1,4-Dichlorobenzene	330	-	NR	NR	30000 D	32000 D	NR
Diethylphthalate	330	170 J	NR	NR	-	-	NR
Naphthalene	330	-	NR	NR	15000 D	15000 D	NR
N-Nitroso-Di-n-Propylamine	330	-	NR	NR	-	-	NR
N-Nitrosodiphenylamine(1)	330	-	NR	NR	560	-	NR
Phenanthrene	330	-	NR	NR	68 J	-	NR
1,2,4-Trichlorobenzene	330	-	NR	NR	860 JD	-	NR
Benzyl Alcohol	330	-	NR	NR	-	-	NR
2-Methylnaphthalene	330	-	NR	NR	14000 D	12000 D	NR
2,4-Dimethylphenol	330	-	NR	NR	9200 D	36000 D	NR
4-Chloro-3-Methylphenol	330	36 J	NR	NR	-	-	NR
2-Methylphenol	330	-	NR	NR	34000 D	-	NR
4-Methylphenol	330	-	NR	NR	32000 D	18000 D	NR
bis(2-Ethylhexyl)Phthalate	330	-	NR	NR	750 JD	1000 JD	NR

TABLE 3 (cont.)
SUMMARY OF SI ANALYTICAL DATA
SS-017-BUILDING 2774

SAMPLE LOCATION:			B-17-001	B-17-001	B-17-001	B-17-001	B-17-001
SAMPLE ID:		SP13SBLANK	SP13TB1131	SP13TB1132	SP13TB1133	SP13TB1134	SP13TB1135
DATE SAMPLED:		11/05/87	11/05/87	11/05/87	11/05/87	11/05/87	11/06/87
DEPTH (Ft.):		0	1	2	3	4	5
MATRIX:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:		33.3			35.8	83.7	
ASSOCIATED BLANK:		SVBLK165303 GJ65303B07			SVBLK171843	SVBLK165303 GJ065303B22	
PESTICIDES/PCB	CRDL ug/kg	-	NR	NR	NR	NR	NR
DILUTION FACTOR:		1					
ASSOCIATED BLANK:		PBLK165304					
PETROLEUM HYDROCARBONS	(mg/kg)	NR	NR	10000	NR	NR	490
pH		7.65			6.25	7.28	
PERCENT SOLIDS		100	76	96	92	79	85

TABLE 3 (cont.)
SUMMARY OF SI ANALYTICAL DATA
SS-017-BUILDING 2774

SAMPLE LOCATION:			B-17-002	B-17-002	B-17-002	B-17-002	B-17-002	B-17-003
SAMPLE ID:			SP13TB1141	SP13TB1142	SP13TB1143	SP13TB1144	SP13TB1145	SP13TB1151
DATE SAMPLED:			11/06/87	11/06/87	11/06/87	11/06/87	11/06/87	11/05/87
DEPTH (Ft.):			1	2	3	4	5	1
MATRIX:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
INORGANIC COMPOUNDS	ANALYTICAL METHOD	CRDL mg/kg						
Aluminum	P	40	NR	NR	NR	NR	NR	NR
Arsenic	F	2	NR	NR	NR	NR	NR	NR
Barium	P	40	NR	NR	NR	NR	NR	NR
Calcium	P	1000	NR	NR	NR	NR	NR	NR
Chromium	P	2	NR	NR	NR	NR	NR	NR
Copper	P	5	NR	NR	NR	NR	NR	NR
Iron	P	2	NR	NR	NR	NR	NR	NR
Magnesium	P	1000	NR	NR	NR	NR	NR	NR
Manganese	P	3	NR	NR	NR	NR	NR	NR
Nickel	P	8	NR	NR	NR	NR	NR	NR
Vanadium	P	10	NR	NR	NR	NR	NR	NR
Zinc	P	4	NR	NR	NR	NR	NR	NR
Lead	P/F	1	98 *	0.95 []*	0.9 []*	0.66 []*	1.9 *	163
ASSOCIATED BLANK:			A 13108-5	A 13108-5	A 13108-5	A 13108-5	A 13108-5	A 13108-2
VOLATILE ORGANIC COMPOUNDS		CRDL ug/kg						
Benzene		5	-	-	-	-	-	-
Chlorobenzene		5	-	-	-	-	-	-
Chloroform		5	3 UJB	3 UJB	12.8 UJB	8.8 UJB	14.4 UJB	2.9 UJB
Ethylbenzene		5	2 J	-	-	-	-	-
Methylene Chloride		5	73 UJB	74.3 UJB	72.1 UJB	134.6 UJB	80.8 UJB	174.6 UJB
1,1,2,2-Tetrachloroethane		5	-	-	-	-	-	-
Toluene		5	2.8 J	-	-	-	-	-
Trichloroethene		5	-	-	-	-	-	-
Acetone		10	212 UJB	216 UJB	208.5 UJB	190 UJB	233.8 UJB	74.6 UJB

TABLE 3 (cont.)
SUMMARY OF SI ANALYTICAL DATA
SS-017-BUILDING 2774

SAMPLE LOCATION:		B-17-002	B-17-002	B-17-002	B-17-002	B-17-002	B-17-003
SAMPLE ID:		SP13TB1141	SP13TB1142	SP13TB1143	SP13TB1144	SP13TB1145	SP13TB1151
DATE SAMPLED:		11/06/87	11/06/87	11/06/87	11/06/87	11/06/87	11/05/87
DEPTH (Ft.):		1	2	3	4	5	1
MATRIX:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
4-Methyl-2-Pentanone	10	-	-	-	-	-	-
Xylenes (Total)	5	76	-	15	-	-	-
1,2-Dichloroethene(Total)	5	-	-	-	-	-	-
DILUTION FACTOR:		1.06	1.08	1.04	1.12	1.17	1.09
ASSOCIATED BLANK:		VBLK165168	VBLK165168	VBLK165168	VBLK1117 GB871117A11	VBLK165168	165235
SEMI-VOLATILE ORGANIC COMPOUNDS	CRDL ug/kg						
Acenaphthene	330	NR	-	NR	NR	NR	NR
Anthracene	330	NR	-	NR	NR	NR	NR
Benzo(a)Anthracene	330	NR	-	NR	NR	NR	NR
bis(2-Chloroisopropyl)Ether	330	NR	-	NR	NR	NR	NR
1,2-Dichlorobenzene	330	NR	-	NR	NR	NR	NR
1,3-Dichlorobenzene	330	NR	-	NR	NR	NR	NR
1,4-Dichlorobenzene	330	NR	-	NR	NR	NR	NR
Diethylphthalate	330	NR	-	NR	NR	NR	NR
Naphthalene	330	NR	-	NR	NR	NR	NR
N-Nitroso-Di-n-Propylamine	330	NR	-	NR	NR	NR	NR
N-Nitrosodiphenylamine(1)	330	NR	-	NR	NR	NR	NR
Phenanthrene	330	NR	-	NR	NR	NR	NR
1,2,4-Trichlorobenzene	330	NR	-	NR	NR	NR	NR
Benzyl Alcohol	330	NR	-	NR	NR	NR	NR
2-Methylnaphthalene	330	NR	-	NR	NR	NR	NR
2,4-Dimethylphenol	330	NR	-	NR	NR	NR	NR
4-Chloro-3-Methylphenol	330	NR	-	NR	NR	NR	NR
2-Methylphenol	330	NR	-	NR	NR	NR	NR
4-Methylphenol	330	NR	-	NR	NR	NR	NR
bis(2-Ethylhexyl)Phthalate	330	NR	-	NR	NR	NR	NR

TABLE 3 (cont.)
SUMMARY OF SI ANALYTICAL DATA
SS-017-BUILDING 2774

SAMPLE LOCATION:	B-17-002	B-17-002	B-17-002	B-17-002	B-17-002	B-17-003
SAMPLE ID:	SP13TB1141	SP13TB1142	SP13TB1143	SP13TB1144	SP13TB1145	SP13TB1151
DATE SAMPLED:	11/06/87	11/06/87	11/06/87	11/06/87	11/06/87	11/05/87
DEPTH (Ft.):	1	2	3	4	5	1
MATRIX:	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:		36				
ASSOCIATED BLANK:		SVBLK165375				
PESTICIDES/PCB CRDL ug/kg	NR	NR	NR	NR	NR	NR
DILUTION FACTOR:						
ASSOCIATED BLANK:						
PETROLEUM HYDROCARBONS (mg/kg)	18000	NR	58	170	88	380
pH		7.11				
PERCENT SOLIDS	94	93	95	88	85	90

TABLE 3 (cont.)
SUMMARY OF SI ANALYTICAL DATA
SS-017-BUILDING 2774

SAMPLE LOCATION:			B-17-003	B-17-003	B-17-003	B-17-003	B-17-003	B-17-004
SAMPLE ID:			SP13TB1152	SP13TB1153	SP13TB1154	SP13TB1155	SP13TB1156	SP13TB1161
DATE SAMPLED:			11/05/87	11/05/87	11/05/87	11/05/87	11/05/87	11/05/87
DEPTH (Ft.):			2	3	4	5	6	1
MATRIX:			SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
INORGANIC COMPOUNDS	ANALYTICAL METHOD	CRDL mg/kg						
Aluminum	P	40	NR	NR	NR	NR	NR	NR
Arsenic	F	2	NR	NR	NR	NR	NR	NR
Barium	P	40	NR	NR	NR	NR	NR	NR
Calcium	P	1000	NR	NR	NR	NR	NR	NR
Chromium	P	2	NR	NR	NR	NR	NR	NR
Copper	P	5	NR	NR	NR	NR	NR	NR
Iron	P	2	NR	NR	NR	NR	NR	NR
Magnesium	P	1000	NR	NR	NR	NR	NR	NR
Manganese	P	3	NR	NR	NR	NR	NR	NR
Nickel	P	8	NR	NR	NR	NR	NR	NR
Vanadium	P	10	NR	NR	NR	NR	NR	NR
Zinc	P	4	NR	NR	NR	NR	NR	NR
Lead	P/F	1	1.4	5.5	0.98 []	NR	-	51
ASSOCIATED BLANK:			A 13108-3	A 13108-3	A 13108-3		A 13108-3	A 13108-3
VOLATILE ORGANIC COMPOUNDS		CRDL ug/kg						
Benzene		5	-	-	-	-	-	-
Chlorobenzene		5	-	-	-	-	-	-
Chloroform		5	13.6 UJB	13.7 UJB	8.1 UJB	3.3 UJB	1.3 J	13.6 UJB
Ethylbenzene		5	-	-	-	-	-	-
Methylene Chloride		5	106.2 UJB	104.6 UJB	102 UJB	193.5 UJB	75.5 UJB	112.2 UJB
1,1,2,2-Tetrachloroethane		5	-	-	-	-	-	-
Toluene		5	-	-	-	-	-	-
Trichloroethene		5	-	-	-	-	-	-
Acetone		10	224.4 UJB	225.8 UJB	251.9 UJB	82 UJB	215.8 UJB	118.2 UJB

TABLE 3 (cont.)
SUMMARY OF SI ANALYTICAL DATA
SS-017-BUILDING 2774

SAMPLE LOCATION:		B-17-003	B-17-003	B-17-003	B-17-003	B-17-003	B-17-004
SAMPLE ID:		SP13TB1152	SP13TB1153	SP13TB1154	SP13TB1155	SP13TB1156	SP13TB1161
DATE SAMPLED:		11/05/87	11/05/87	11/05/87	11/05/87	11/05/87	11/05/87
DEPTH (Ft.):		2	3	4	5	6	1
MATRIX:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
4-Methyl-2-Pentanone	10	-	-	-	-	-	-
Xylenes (Total)	5	-	-	-	-	-	-
1,2-Dichloroethene(Total)	5	-	-	-	-	-	-
DILUTION FACTOR:		1.18	1.19	1.23	1.21	1.2	1.17
ASSOCIATED BLANK:		VBLK1116 GC871116A03	VBLK1116 GC871116A03	VBLK1116 GD871116C18	165235	VBLK1115 GB871115B03	VBLK1116 GC871116A13
SEMI-VOLATILE ORGANIC COMPOUNDS	CRDL ug/kg						
Acenaphthene	330	NR	NR	NR	NR	NR	NR
Anthracene	330	NR	NR	NR	NR	NR	NR
Benzo(a)Anthracene	330	NR	NR	NR	NR	NR	NR
bis(2-Chloroisopropyl)Ether	330	NR	NR	NR	NR	NR	NR
1,2-Dichlorobenzene	330	NR	NR	NR	NR	NR	NR
1,3-Dichlorobenzene	330	NR	NR	NR	NR	NR	NR
1,4-Dichlorobenzene	330	NR	NR	NR	NR	NR	NR
Diethylphthalate	330	NR	NR	NR	NR	NR	NR
Naphthalene	330	NR	NR	NR	NR	NR	NR
N-Nitroso-Di-n-Propylamine	330	NR	NR	NR	NR	NR	NR
N-Nitrosodiphenylamine(1)	330	NR	NR	NR	NR	NR	NR
Phenanthrene	330	NR	NR	NR	NR	NR	NR
1,2,4-Trichlorobenzene	330	NR	NR	NR	NR	NR	NR
Benzyl Alcohol	330	NR	NR	NR	NR	NR	NR
2-Methylnaphthalene	330	NR	NR	NR	NR	NR	NR
2,4-Dimethylphenol	330	NR	NR	NR	NR	NR	NR
4-Chloro-3-Methylphenol	330	NR	NR	NR	NR	NR	NR
2-Methylphenol	330	NR	NR	NR	NR	NR	NR
4-Methylphenol	330	NR	NR	NR	NR	NR	NR
bis(2-Ethylhexyl)Phthalate	330	NR	NR	NR	NR	NR	NR

TABLE 3 (cont.)
SUMMARY OF SI ANALYTICAL DATA
SS-017-BUILDING 2774

SAMPLE LOCATION:		B-17-003	B-17-003	B-17-003	B-17-003	B-17-003	B-17-004
SAMPLE ID:		SP13TB1152	SP13TB1153	SP13TB1154	SP13TB1155	SP13TB1156	SP13TB1161
DATE SAMPLED:		11/05/87	11/05/87	11/05/87	11/05/87	11/05/87	11/05/87
DEPTH (Ft.):		2	3	4	5	6	1
MATRIX:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
DILUTION FACTOR:							
ASSOCIATED BLANK:							
PESTICIDES/PCB	CRDL ug/kg	NR	NR	NR	NR	NR	NR
DILUTION FACTOR:							
ASSOCIATED BLANK:							
PETROLEUM HYDROCARBONS	(mg/kg)	96	-	-	-	98	10000
pH							
PERCENT SOLIDS		85	83	81	82	83	85

TABLE 3 (cont.)
SUMMARY OF SI ANALYTICAL DATA
SS-017-BUILDING 2774

SAMPLE LOCATION:			B-17-004		B-17-004	
SAMPLE ID:			SP13TB1162		SP13TB1163	
DATE SAMPLED:			11/05/87		11/05/87	
DEPTH (Ft.):			2		3	
MATRIX:			SOIL		SOIL	
INORGANIC COMPOUNDS	ANALYTICAL METHOD	CRDL mg/kg				
Aluminum	P	40	NR		NR	
Arsenic	F	2	NR		NR	
Barium	P	40	NR		NR	
Calcium	P	1000	NR		NR	
Chromium	P	2	NR		NR	
Copper	P	5	NR		NR	
Iron	P	2	NR		NR	
Magnesium	P	1000	NR		NR	
Manganese	P	3	NR		NR	
Nickel	P	8	NR		NR	
Vanadium	P	10	NR		NR	
Zinc	P	4	NR		NR	
Lead	P/F	1	17		0.49	[]
ASSOCIATED BLANK:			A 13108-3		A 13108-3	
VOLATILE ORGANIC COMPOUNDS		CRDL ug/kg				
Benzene		5	-		-	
Chlorobenzene		5	-		-	
Chloroform		5	-		-	
Ethylbenzene		5	-		-	
Methylene Chloride		5	34.8	UJB	36	UJB
1,1,2,2-Tetrachloroethane		5	-		-	
Toluene		5	-		-	
Trichloroethene		5	-		-	
Acetone		10	26		13	

TABLE 3 (cont.)
SUMMARY OF SI ANALYTICAL DATA
SS-017-BUILDING 2774

SAMPLE LOCATION:		B-17-004	B-17-004
SAMPLE ID:		SP13TB1162	SP13TB1163
DATE SAMPLED:		11/05/87	11/05/87
DEPTH (Ft.):		2	3
MATRIX:		SOIL	SOIL
4-Methyl-2-Pentanone	10	-	-
Xylenes (Total)	5	-	-
1,2-Dichloroethene(Total)	5	-	-
DILUTION FACTOR:		1.06	1.03
ASSOCIATED BLANK:		VBLK1115 GC871115C03	VBLK1115 GC871115C03
SEMI-VOLATILE ORGANIC COMPOUNDS	CRDL ug/kg		
Acenaphthene	330	NR	NR
Anthracene	330	NR	NR
Benzo(a)Anthracene	330	NR	NR
bis(2-Chloroisopropyl)Ether	330	NR	NR
1,2-Dichlorobenzene	330	NR	NR
1,3-Dichlorobenzene	330	NR	NR
1,4-Dichlorobenzene	330	NR	NR
Diethylphthalate	330	NR	NR
Naphthalene	330	NR	NR
N-Nitroso-Di-n-Propylamine	330	NR	NR
N-Nitrosodiphenylamine(1)	330	NR	NR
Phenanthrene	330	NR	NR
1,2,4-Trichlorobenzene	330	NR	NR
Benzyl Alcohol	330	NR	NR
2-Methylnaphthalene	330	NR	NR
2,4-Dimethylphenol	330	NR	NR
4-Chloro-3-Methylphenol	330	NR	NR
2-Methylphenol	330	NR	NR
4-Methylphenol	330	NR	NR
bis(2-Ethylhexyl)Phthalate	330	NR	NR

TABLE 3 (cont.)
SUMMARY OF SI ANALYTICAL DATA
SS-017-BUILDING 2774

SAMPLE LOCATION:		B-17-004	B-17-004
SAMPLE ID:		SP13TB1162	SP13TB1163
DATE SAMPLED:		11/05/87	11/05/87
DEPTH (Ft.):		2	3
MATRIX:		SOIL	SOIL
DILUTION FACTOR:			
ASSOCIATED BLANK:			
	CRDL		
PESTICIDES/PCB	ug/kg	NR	NR
DILUTION FACTOR:			
ASSOCIATED BLANK:			
PETROLEUM HYDROCARBONS	(mg/kg)	-	52
pH			
PERCENT SOLIDS		94	97

TABLE 4
SUMMARY OF SI ANALYTICAL DATA
SS-017-BUILDING 2774

SAMPLE LOCATION:			MW-17-002		MW-17-003		MW-17-001	
SAMPLE ID:			JMW114XX01		JMW115XX01		JMW113XX01	
DATE SAMPLED:			12/09/87		12/09/87		12/09/87	
DEPTH (FT.):			0		0		0	
MATRIX:			WATER		WATER		WATER	
INORGANIC COMPOUNDS	ANALYTICAL METHOD	CRDL ug/l						
Aluminum	P	200	-		-		-	
Arsenic	F	10	19.5	UJB	19.5	UJB	19.5	UJB
Barium	P	200	11	[]	11	[]	13	[]
Cadmium	P	5	-		-		-	
Calcium	P	5000	52200		46700		50300	
Cobalt	P	50	5.2	[]E	5.9	[]E	5.2	[]E
Copper	P	25	-		-		-	
Iron	P	100	5600		3000		168	
Lead	P/F	5	-		-		-	
Magnesium	P	5000	11600	E	11500	E	12700	E
Manganese	P	15	1300		1220		6120	
Mercury	CV	0.2	-		-		-	
Potassium	P	5000	2740	[]	3240	[]	2370	[]
Sodium	P	5000	8360	E	6210	E	4600	[]E
Vanadium	P	50	6	[]	4.5	[]	5.4	[]
Zinc	P	20	55	UJB	55	UJB	55	UJBE
ASSOCIATED BLANK:			13108M		13108M		13108M	
VOLATILE ORGANIC COMPOUNDS		CRDL ug/l						
Benzene		5	1.6	J	-		-	
Chloroform		5	-		-		-	
Ethylbenzene		5	20		-		-	
Methylene Chloride		5	14	UJB	14	UJB	14	UJB
Toluene		5	-		-		-	
Trichloroethene		5	-		4.1	J	-	
Acetone		10	-		-		-	
2-Butanone		10	-		-		-	
1,2-Dichloroethene(Total)		5	2.5	J	-		-	
Xylenes (Total)		5	21		-		-	
DILUTION FACTOR:			1		1		1	
ASSOCIATED BLANK:			VBLK1214		VBLK1214		VBLK1214	
SEMI-VOLATILE ORGANIC COMPOUNDS		CRDL ug/l						
Acenaphthene		10	2.2	J	-		-	
bis(2-Ethylhexyl)Phthalate		10	9.2	J	5.2	J	4.8	J
Naphthalene		10	8.4	J	-		-	
2-Methylnaphthalene		10	11	J	-		-	
DILUTION FACTOR:			2		2		2	
ASSOCIATED BLANK:			SVBLK171804		SVBLK171804		SVBLK17470	